December 5, 2014

NOAA ADVISORY COMMITTEE ON COMMERCIAL REMOTE SENSING (ACCRES)

OPEN SESSION MEETING SUMMARY

December 5, 2014

Open Session

The open session of the eighteenth meeting of NOAA's Advisory Committee for Commercial Remote Sensing (ACCRES) was convened on December 5, 2014 at 9:00 am in the George Washington University Elliot School of International Affairs, Washington, DC 20052. In accordance with the provisions of Public Law 92-463, the meeting was open to the public.

Committee members present:

Mr. Kevin O'Connell (Chair)
President and Chief Executive Officer, Innovation Analytics and Training LLC
Dr. Joanne Gabrynowicz
Director, National Center for Remote Sensing, Air, and Space Law, University of Mississippi
Dr. David Gorney
Senior Vice President, Space Systems Group, The Aerospace Corporation
represented by Dr. Raymond Heidner
Mr. Joe Rothenberg
President and Chief Executive Officer, Skybox Imaging
represented by Andy Hock
Mrs. Roberta Lenczowski
President, American Society for Photogrammetry and Remote Sensing (ASPRS)
Mr. Keith Masback
President, United States Geospatial Intelligence Foundation (USGIF)
Dr. Scott Pace
Director, Space Policy Institute, George Washington University
Mr. Herbert Satterlee
Chief Executive Officer, McDonald, Dettwiler and Associates Information Systems, Inc., (U.S. Subsidiary)
Mr. Robert H. Schingler, Jr.
Owner and Chief Operating Officer Planet Labs
represented by Mr. Rich Leshner
Mr. Jeffrey Tarr
President and Chief Executive Officer, DigitalGlobe, Inc.
represented by Marcy Steinke
Ms. Michelle R. Westlander Quaid
Technology Evangelist, Google

Observers:

Ms. Indra Hornsby – BlackSky Global
Mr. Bruce Heater – Commercial remote Sensing Working Group (CRSWG)
Mr. Dennis Mailhot – NOAA/CRSRA
Mr. Alan Robinson – NOAA/CRSRA
Ms. Karen Dacres – Booze Allen Hamilton
Mr. Aleks Padalko – R.E.
Dr. Raymond Heidner – Aerospace Corporation
Dr. Carlo Kuntz – Department of Defense
Mr. Henry Hertzfeld – George Washington University
Mr. Kevin Pomfret – Geolaw
Mr. Wes Merrill – George Washington University
Mr. Richard James – NOAA/CRSRA
Ms. Colleen Driscoll – House Science Committee
Ms. Eve Douglas – NOAA
Ms. Karen Yasumnia – DigitalGlobe
Mr. Jeff Leonard – Booz Allen Hamilton
Mr. Tom Smith – NOAA

Notes from NOAA ACCRES Meeting of December 5, 2014

R. F. Heidner III, Project West Wing
The Aerospace Corporation

Meeting Description: This was the third all-day ACCRES meeting that was open to the public. The driver for an open meeting was the FACA-imposed requirement for Commerce Business Daily notice of 45 days to hold a closed meeting (30 days for an open meeting). In addition to ACCRES members, attendees included other USG agencies and about a handful of "outside" observers.

Outlook for NOAA ACCRES Partnership

Mark Paese: Mark noted the watershed change to the VNIR PAN/MSI resolution threshold (6/9/14) and the launch of WorldView-3 (8/13/14). Under the new 0.25m/1.0m regulations for PAN/MSI GSD in the VNIR, WV-3 best resolution (ca. 0.31m/1.24m) will be made commercial available in February 2015. A working group is currently considering imaging protocols.

While NOAA/NESDIS must continue to focus its concerns on JPSS and GOES-R, CRSRA is being inundated with licensing requests for small satellites. In 2011, there were 5 licensed satellites operating; in 2014 there were 79 with 56 waiting in the queue.[1]

NOAA/NESDIS incorporates the Office of Space Commercialization as an industry advocate, as well as CRSRA as an industry licensing and regulatory authority. Both roles have to be recognized.

ACCRES History and Purpose

Kevin O'Connell: Kevin noted that the original vision of U.S. commercial remote sensing is finally starting to be achieved. At the same time, he stressed that there needs to be a bipartisan (multi-partisan?)

[1] Both the ACCRES members and the rest of the attendees agreed that CRSRA staff cannot meet this challenge simply by "working harder." ACCRES must help devise a system wherein they can work "smarter."

effort to help reform the licensing and regulatory system so that it is capable of dealing with an even more dynamic future. He mentioned a number of topics that have emerged in recent years: (1) injection of venture capital; (2) planned obsolescence of systems (allowing more frequent technology insertion); (3) rapid innovation cycles; (4) new business models; (5) rapid rate of change in the commercial landscape (80% of the 2010 NRC report goals for 2025 achieved by 2014); (6) the need to better correlate law, policy and regulation; and (7) the need to revisit the whole CRS satellite enterprise with a "clean-sheet-of-paper" approach.

He raised additional challenges for the ACCRES in particular: (1) helping CRSRA deal with resource limitations ($$/manpower) and generally improving CRSRA/ACCRES communications; (2) keeping CRSRA apprised of foreign developments (legal frameworks, Big Data and other information science advances, space technology, etc.);

Several terms were given repeated stress: (1) practice pragmatism, rather than idealism; (2) create transparency (i.e., a framework that allows U.S. industry to compete using an understandable – and stable – rule set); and (3) transmit historical perspective (enable new players to understand what happened in the past [both good and bad] and why). If not "gray-beard panels, then what is needed by NOAA and the Interagency?

International landscape, including changing data policies and technology developments

Joanne Gabrynowicz (briefing charts provided): the following are highlights for the ACCRES. Joanne provided a very good discussion on the different views of privatization and commercialization around the world. The European Sentinel Data Policy demands a good deal of attention because it will result in providing a large amount of low-to-moderate resolution remote sensing data free-of-charge. Joanne and Scott Pace had a very informative discussion about Japanese data policy. Of particular interest is the ambiguity concerning commercialization of data from the launch of Asnaro-1 (11/6/2014) since it nominally has resolution at least as good as the French Pleiades satellites.

Current Topics and NOAA Challenges in Commercial Remote Sensing

Tahara Dawkins (briefing charts provided): Tahara noted that in additional to herself, CRSRA has 1 licensing officer, 2 compliance officers, and 1 program analyst. Given the current stated requirements in 15CFR960, this staffing level cannot handle the workload created by the avalanche of small satellite license applications. Perhaps the most telling statistic is that by FY16 there will be 100+ ground sites requiring inspections. Additional challenges will come with new Shutter Control related requirements, evaluation of Special Collects, and the potential for NEI applications.

Scott Pace: Please see Round-Table discussion section. The USG has international obligations for on-going supervision of all space activities by U.S. citizens.

Round-Table Discussions

Dave Gorney: This entire process could benefit from a risk assessment architecture that assigned available resources to the areas that matter the most. Some risks must be mitigated. Other risks can be tolerated. No activity has zero risk to national security, foreign policy, international obligations or the health of a commercial enterprise. By definition we are doing a net assessment of risks versus benefits. People need to be able to articulate what is actually at risk – whether from the national security perspective or from industry's perspective relative to maintaining the global leadership position of the U.S. space industrial base. Both "sides" respect the goals of the other side. They should be part of a single process.[2]

[2] Rick Heidner note: as with all systems engineering enterprises, a high premium has to be placed on maintaining and applying lessons learned from generation-to-generation. This is true of policy (O'Connell), business models, and technology.

Michele Westlander Quaid, Eve Douglas, Marcy Steinke, Kevin O'Connell, and Keith Masback Interchange: The USG is always in reactive mode; industry is always playing catch-up when foreign developments dictate (ED). Just let industry do the best they know how to do; if we need to have a classified meeting to assess where to self-limit, then do that. Right now we're fighting ghosts (MWQ). There's something wrong when it takes 2 months to approve release of three "best resolution" non-sensitive publicity images (from WV-3) [MS]. It would be a mistake to have catalyzed foreign interest in CRS and then fail to lead in the future (KO). It's embarrassing for the USG to limit the ability of its industry to compete; it's the Theater of the Absurd; what should ACCRES do? (KM)

Scott Pace, Joanne Gabrynowicz and Rick Heidner Interchange: Let's return to the question of "Why regulate?" We have treaty and other obligations under international law to provide on-going supervision of the space activities of U.S. citizens.[3] Much of the focus of these obligations is on the access to, the sustainability of, and the responsibility for peaceful activities in the "global commons" of space. Areas where international cooperation and national regulation are – or should be - mandatory are: (1) spectrum management; and (2) launch, orbital de-orbit and re-entry, and orbital debris prevention. (SP, JG) Attempts to regulate the operation of remote sensing systems on an international basis have been challenging.[4] The non-binding "Principles" allow for almost complete national discretion on the nature of remote sensing activities – civil, national security, and commercial. While permission to task - or downlink data from - a satellite from a site within a foreign country can be restricted, the ability to *image* that country cannot. (SP, RH)

The bottom line is that NOAA/NESDIS/CRSRA defines – with Interagency input – what privately-operated (including commercial) U.S. remote sensing activities can take place. Licensing and regulatory oversight deal with three areas:

1. Operational capabilities (remote sensing methodologies, sensors, CONOPS, etc.)
2. Information assurance (satellite-to-ground security; Data Protection Plans, including any encryption requirements; any physical or personnel security requirements)
3. Resource management (spectrum, orbital re-entry and debris, etc.)

Each of these areas should ideally have a "tiered" regulatory plan that more often than not is a function of the size of the satellite and/or the size of the satellite constellation. (RH)

Michele Westlander Quaid, Marcy Steinke, Eve Douglas, Karen Dacres, and Rick Heidner Interchange: It appears that most of the changes that industry would like to see [MWQ, ED]) can be made through regulatory changes within 15CFR960 (KD, RH). They don't require changes to the law or Executive policy. What *are* the roadblocks to improving the licensing and regulatory environment for U.S. private remote sensing satellite operators? The major barriers to overcome within the USG seem to be: (1) fear of unintended consequences of decision making (RH); (2) lack of timely decision making; process delays harm business models (MWQ); and (3) heritage processes don't account for the diversity of systems and business models that are being submitted for licensing. Too much emphasis is placed on regulations reflecting NGA concerns about heritage system capabilities (MS, MWQ). Interagency reviewers lack the full understanding of technology, applications, law, policy, economics, foreign competitions, risks and rewards inherent in "non-traditional" applications (RH). By being reactive, you surrender opportunities as was done with SAR. Our rules have prevented us from exporting a turn-key remote sensing system [since Kompsat-1 in 1999] (ED).

NSC Space Policy Update

Chirag Parikh: The decision to move the licensing threshold to 0.25m/1.0m was made on economic grounds; any mitigation steps for national security, foreign policy, or international obligations will follow.

[3] Primary among these are the Outer Space Treaty (1967) and the Space Liability Convention (1972)
[4] See discussion related to the UN Principles Relating to Remote Sensing of the Earth from Outer Space (1986).

It is understood that new phenomenologies will continue to be identified.
We believe there is still time in this Administration to review NSPD-27 (2003), U.S. Commercial Remote Sensing Space Policy. The intent is to examine the changes in the past decade and to consider where commercial remote sensing is likely to go in the next 5 – 10 years. We would like community input.

Principal Action Item:

Short paper for the Secretary, based on the ITAC paper: ACCRES talked about this paper as one which would frame ACCRES perspectives, including the "why regulate?" issue. It would also include observations about various aspects of law, policy or regulation that would merit change, obviously with an emphasis on DoC/NOAA. Ideally, this short paper will drive additional work tasks back down to the Committee. One way to look at this is to revisit the 15 CFR 960 comments made by the public and the Committee approximately two years ago. Kevin will reach out to Kim Wells for an official copy of the ITAC paper; NOAA's help in this is also welcome.

— **National Security task group**: NOAA will provide Kevin specific guidance on how it intends to proceed with this, including any specific guidelines on how the Committee need to run this, consistent with the charter. The task group would then report out to the broader Committee, including a set of unclassified observations.

As a secondary matter, Chriag Parikh asked ACCRES for a couple of inputs. NOAA should validate these as a legitimate input from the Committee:

— **National security implications of commercial imagery**: ACCRES so often talk about the risk of new capabilities in the market, and look at that through the narrow lens of whether others have the capability or not. But that kind of assessment foregoes the broader shaping and industrial base benefits that ultimately affect national security as well.

— **NSPD-27 review**: While it is not clear that NSPD-27 review will take place, nor should at this time, the Committee agreed to take a coordinated look at the language. ACCRES input would be best to try and look far ahead at where the U.S. Needs to be over the next decade, almost a "clean sheet" approach to thinking about a new policy. But again, perhaps ACCRES efforts are better spent thinking about how to more effectively implement existing policy in the near term.

Conclusion

Current ACCRES members appear anxious to improve the current licensing and regulatory process. They recognize the need for a champion to elevate their concerns and believe that Ms Penny Pritzker, the current Secretary of Commerce, will be responsive to a presentation on the critical role that U.S. CRS industry can play in U.S. innovation and competitiveness. CRSRA is responsible for all privately-operated remote sensing satellites. Many of the recent licenses come from universities. They are not intended for long-term operation, much of their technology is not "advanced," and the data they collect is not intended for commercial purposes. Nevertheless, they are important training grounds and innovation centers. A streamlined licensing and regulatory process must recognize the difference between these systems and the most highly advanced "operational" systems (e.g., WorldView-2, -3, and -4). Without streamlining the process, CRSRA lacks the resources to fulfill its mission given the exponential increase in the number of licenses and satellites.
It is evident that better channels of communication between the USG and industry are required. While that topic was not explicitly discussed in detail, the ACCRES is in position to make some pragmatic suggestions.